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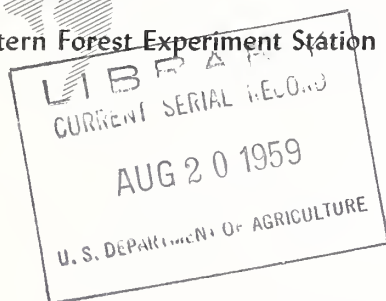
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NORTHEASTERN FOREST PEST REPORTER

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Northeastern Forest Experiment Station



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FOREST INSECTS

Economics and entomology seem far removed generally. To most of us, both subjects involve a pesty situation. We first become really embroiled in both at the same time perhaps when we are faced with the problem of getting and doling out money to fight a particular insect at a particular time and place. However, a more basic relationship and problem area rears up whenever insect control comes up for discussion by men in different lines of tree production and use.

For example, a timberland owner growing trees for pulp or lumber, a Christmas tree grower, a shade tree owner, and a water company official would quickly agree that the dollars and cents value of their trees differed considerably; and because of this, their outlook on pest control would differ also. More to the point, they would differ in the amount of tree damage and mortality that they could allow before taking action. The Christmas tree grower and shade tree owner would be perturbed aesthetically and financially, as soon as their trees were made unsightly or deformed in any way. The large-scale timber grower probably wouldn't get really excited until some trees started to die or became noticeably damaged in large numbers. The insect problem would be a comparatively minor one to the water company representative until the cost of replacing trees actually killed became excessive in a financial way. The problem, then, is viewed as one of allowable loss, and realistically the economic considerations often outweigh or completely mask the entomological.

This is perfectly all right--but those responsible for judging if, when, and where to take control action are working under a handicap. There is insufficient factual data on the real losses caused by even the major insect pests; and in those cases where some information is available, it has not been determined or presented in terms usable by all operators in the different lines of production and utilization. This is a broad area of forest insect research that is much in need of integrated action and support.



A timely work conference on all aspects of pest control and management of white pine is scheduled for key personnel of the Northeastern Forest Experiment Station at the Forest Insect Laboratory in New Haven in early September. The inter-relations of the forest, the pests, and economics will get a thorough verbal examination.

SPRUCE BUDWORM (Choristoneura fumiferana) The cooperative aerial survey in northern Maine this year revealed noticeable defoliation as expected in the area immediately west of the 1958 control area. Airplane and pilot were furnished by the Maine Forest Service; Maine Forest Service and Northeastern Station personnel served as observers. The area of defoliation extends from Hedgehog Mountain south to Ashland and from Portage west to Ferguson and Carr Ponds. It covers approximately 250,000 acres, much of it classed as medium and heavy. The potential infestation for next year and any indications of spread will be obtained by the egg mass survey now in progress.

Just to clear up a misleading statement in the first issue (July 10) of the REPORTER--the first U. S. National Museum record from Pennsylvania of the parasite Apanteles fumiferanae was taken from the Choristoneura form on Virginia pine near Blain.

PINE SAWFLIES European pine sawflies (Neodiprion sertifer) reported now in outbreak numbers at a location in Niagara County, New York. As the time of the appearance of insect pests, as well as their location, is important, herewith is another correction from the last issue of the REPORTER. The emergence of N. sertifer in Luzerne County, Pa. occurred on May 2, and the small virus spray job there was completed on May 8. The red-headed pine sawfly (N. lecontei) is expected to be the most serious in several years this season in New York, where medium to heavy damage to red pine is reported over the State. Owners have been advised on detection and control measures. Approximately 600 acres of State Forest land in Steuben County were sprayed. In untreated areas (i.e., 40 acres in Fulton County) damage is "very heavy." In the Lake George area, egg hatching was noticed as early as June 26.

BALSAM WOOLLY APHID (Adelges piceae) A total of 1,140 adults of Aphidoletes thompsoni, a dipterous predator, have been released at three locations on the Penobscot Experimental Forest in Maine. Pupae were collected in West Germany, sent to Belleville, Ontario, thence to Moorestown, New Jersey, where they were reared. The adults were air-mailed to Bangor for release by NEFES personnel.

WHITE PINE WEEVIL (Pissodes strobi) appears to be more abundant than expected early this season. New York reports that it is very heavy throughout the State, heavier than last year--with medium infestations on Scotch pine in Tompkins and Tioga Counties. In New Hampshire, too, it is more abundant than in recent years. In Forest County, Pa., the weevil is reported attacking moderate numbers of Austrian pine, with nearby white and Scotch pines only lightly attacked. An experimental control test in Pennsylvania on a half acre with 20 lbs. of granular 5 percent Heptachlor, 30 / 60 mesh, applied last October yielded these results: 114 of approximately 500 trees were examined and 9 weevil attacks were found--this is an 8 percent infestation compared to 50 percent last year and 35 to 45 percent in similar plantations in the vicinity this year.

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) adults were noted prevalent June 24 on red pines in Tucker County, West Virginia, where they have damaged valuable red and Scotch pine plantations. Adults of the Nantucket pine tip moth (R. frustrana) emerged by July 17 in Anne Arundel County, Md., and pupation in Scotch pine on June 24 was reported in Lancaster County, Pa.

PINE SPITTLEBUG (Aphrophora parallela) The southern tier of counties in New York reportedly have medium to heavy infestations of this pest on white and Scotch pines; Scotch pine in the Saranac area is infested also.

MISCELLANEOUS INSECTS ON CONIFERS The spruce gall aphid (Chermes abietis) appears to have increased in the lower Hudson Valley in New York, and Maryland reports it infesting spruce in Allegany County. In Pennsylvania, Cooley gall aphids (C. cooleyi) matured on blue spruce in Pittsburgh about July 13 and Cinara (probably banksianae) aphids were common on Virginia pine twigs on July 10. Pine gall weevil adults (Podapion gallicola) were common feeding on twigs and needle bases of Virginia pine at Blain, Pa., also on July 10. There is a heavy infestation of the root collar weevil (Hylobius radialis) in three plantations comprising about 18 acres of red and Scotch pines in Warren and Saratoga Counties, N.Y., and it is reported killing some red pines in Lewis County. It has practically ruined a Christmas tree planting of Scotch pine at Shelton, Conn. There are scattered outbreaks of Ips pini in Saratoga County, N.Y., plantations of red pine and heavy buildup in girdled trees. It is believed that serious outbreaks may occur throughout the State if dry weather continues. Matsucoccus gallicolis, the pine twig gall scale, is commonly killing pitch pine tips in the Mount Holly-Pine Grove Furnace area of Pennsylvania. The larch sawfly (Pristiphora erichsonii) defoliated Japanese larch plantings near Emporium, Waterville, and Renovo, Pa.--trees were stripped and all larvae cocooned between July 7 and 16. At the Renovo site this was the sixth year of observed defoliation, but cores showed eight depressed rings indicating about 10 years of damage.

SOLITARY OAK LEAF MINER (Cameraria hamadryadella) This pest has caused considerable blotching and leaf shedding of white oak in Massachusetts and damage is quite noticeable throughout Connecticut, Rhode Island, and Orange County, N.Y. as well. Some damage to white oak foliage in Connecticut, at least, is the result of feeding of the gregarious oak leaf miner (C. cincinnatiella) as well.

SAWFLIES An oak sawfly (Caliroa lineata) is causing moderately heavy feeding injury in New Castle County, Del., to scarlet and pin oaks, and an "oak sawfly" is moderately heavy on white oak in Sussex County, same State. In Mason and Kanawha Counties, West Virginia, Arge macleanyi, a sawfly which feeds on wild black cherry, is reported medium to light.

FOREST TENT CATERPILLAR (Malacosoma disstria) Evidence of the severe defoliation of oaks and maples by this pest are to be seen in many locations in the Northeast. In the area of Witcher's Creek, Kanawha County, W. Va., reported as severe in the last issue of the REPORTER, about 18,000 acres have been totally defoliated. A scattered aggregate of about 10,000 acres in Hardy and Hampshire Counties was defoliated also. Noticeable stripping took place in Randolph, Webster, and Monongalia Counties. Egg masses of the eastern tent caterpillar (M. americanum) seem very abundant in areas where they were counted in spite of virus disease among the larvae, according to W. H. Gillespie. Hatching of M. americanum occurred on April 8 in Somerset County, Pa.

GYPSY MOTH (Porthetria dispar) In Connecticut about 5,400 acres in 16 towns were defoliated less than 50 percent; 670 acres were defoliated more than 50 percent, most of the damage being in towns which were not sprayed. About 7,000 acres in 10 towns were sprayed to prevent serious defoliation. Calosoma larvae are reported very abundant in New Haven County. In Massachusetts the gypsy moth appears to be building up in some sections; so, too, in New York where an aerial survey is being made of areas known to be infested. Small spots of light to medium defoliation have been found in the eastern counties bordering Massachusetts and Vermont.

ORANGE-STRIPED OAK WORM (Anisota senatoria) Even though much of the season's tree growth has occurred by the time this midseason defoliator effects its damage, repeated stripping alone or in combination with other defoliators can result in the retarding of growth, root loss, and even tree death. Reports of this pest are more restricted this year than last but some of 1958's areas of infestation are again heavily hit. In Connecticut, parts of 43 towns, with 40,000 acres heavily infested last year, are again heavily infested. At South Windsor and Glastonbury some adults had emerged and laid eggs, hatching had begun and some pupae remained in the ground on July 15. Pupae successfully passed the winter in large numbers in the southwestern part of the State and adults had emerged and were laying eggs by July 17. In Pennsylvania, 1st and 2nd instar larvae were present on July 21 in the Pine Grove Furnace area, where some scarlet oak is dead and the rest in poor condition. These trees have been repeatedly defoliated for years.

MISCELLANEOUS INSECTS ON HARDWOODS The maple leaf cutter (Paraclemensia acerifoliella) has again appeared in New York State between Boonville and Carthage and present indications are that populations will be as high or higher than a year ago. The white-marked tussock moth (Hemerocampa leucostigma) is light in Delaware on sycamore and elm and generally scattered over Nantucket Island, Mass. The imported willow leaf beetle (Plagiodera versicolora) is still causing trouble on willows in Massachusetts and Rhode Island; heavy in spots in Delaware. Cingilia catenaria, the chain-spotted geometer, is reported injuring a variety of hosts in coastal Rhode Island, and nearly mature larvae were abundant before July 24. An oak leaf roller (Argyrotoza semipurpurana) completely defoliated oaks in an area of 700 to 1,000 acres in western Massachusetts and caused considerable defoliation of ridge tops in Fulton County, Pa. The moths were common there on June 24, and undoubtedly before, and around Pike County toward the end of June. The locust leaf miner (Chalepus dorsalis), on the decrease last summer, is scarce this year in West Virginia. It is becoming noticeable in Greene County, N.Y. To the New York report of beech scale (Cryptococcus fagi) in the last REPORTER, a new note from southern New Hampshire says that the scale is very abundant--no Nectria yet observed.

FOREST DISEASES

Few reports of clear-cut, definite, well-defined forest tree diseases were received for this issue of the PEST REPORTER. The low incidence of foliage and shoot blights, as reported in the first issue, has remained low. The most prominent diseases remain the wilts and dieback troubles. The relative number of indefinite troubles of unknown and uncertain causes has increased. Many of these deal with diebacks and plantation troubles.

Weather conditions have been variable throughout the Northeast, since the general drought in May. Some areas have had deficient rainfall, while others, such as the southern New England coastal region, have had ample, well-distributed rains. These weather variations have had little effect on tree diseases, judging from the reports received.

WILTS

Dutch elm disease (Ceratocystis ulmi) is increasing. West Virginia reports it as heavy and statewide. New Hampshire states that Dutch elm disease appears more common every year, usually in scattered, single trees. Massachusetts reports Dutch elm disease appears to be striking heavily this year. General observations throughout New England show it is widespread, common, and conspicuous.

Oak wilt (Ceratocystis fagacearum) The Oak Wilt Laboratory, Blain, Pa. reports, "Oak wilt--intensive surveys of 21 infection centers and laboratory diagnosis of both suspect and non-symptom trees reveal infection in one to four white and/or chestnut oaks on each of seven centers (33 percent of the centers sampled to date). Some of these trees were completely lacking in symptom expression, i.e., foliage wilt, branch dieback, and staghead."

The West Virginia survey started June 1, and about 850 trees had been processed by the dry girdle method by July 17. Oak wilt intensity apparently is normal or below normal except in the Eastern Panhandle where the disease is heavier than anticipated. Quite a number of trees died over winter or last fall, according to early reports. The disease was found in Barbour County, making 47 out of the 55 counties in the State.

FOLIAGE DISEASES

From Pennsylvania and West Virginia comes word that anthracnose of sycamore and oak (Gnomonia veneta) is very light and it is hard to find evidence of the disease. Pennsylvania reports Phyllosticta leaf spot of red maple is quite common and widespread, especially in understory trees. Leaf blotch of horsechestnut (Guignardia aesculi) has become increasingly evident during the past few weeks in Pennsylvania. Massachusetts says leaf blight of English hawthorns (Entomosporium thuenenii) is fairly general in the eastern part of the State.

RUSTS

Only two reports of rusts were received for this issue; one that white pine blister rust (Cronartium ribicola) is about normal in West Virginia, with eradication crews active; while New York reports that a quite heavy infection of poplar leaf rust has been noted in Lewis County. Apparently this season has not been too favorable for the rust diseases.

PLANTATION DISEASES

A heavy infection of tip blight (Diplodia pinea) is reported on Scotch pine in Indiana County, Pa. Infection was very meager in the portion of the plantation not bordered by infected pole-sized Scotch pines.

A number of reports of plantation troubles of unknown or uncertain causes were received. Dieback of leader and laterals is causing severe and extensive damage to Scotch pine plantations in Cortland and Chenango Counties in New York. No evidence of insect activity was found. Samples will be cultured to determine if a disease is responsible. The same condition has been noted on white pine and Norway spruce near the infected Scotch pines. Damage to a 30-acre pole-sized plantation of white pine has been noted at the State Ranger School at Wanakena, N.Y. The leaders are completely dead and needles are absent on the top three to four laterals. The cause of this damage has not been determined, but insects or disease may be involved. Most of the white pine was planted in mixture with red pine. New York also reports 90 percent of a 2- to 3-year-old planting of 2,000 red pines near Waterford completely dead and the other 10 percent as dying. A report from New Hampshire states that deformation, loss of terminal bud, and proliferation of buds resulting in forking of white pine, bids fair to be the number-one enemy of white pine there, since it is more abundant than white-pine weevil. The cause of the trouble has not been fully explained, although observations in southern New Hampshire suggest Grosbeaks, squirrels, and possibly an insect may cause the damage. Animal-caused damage to plantations in New York State is reported in which Grosbeak activity resulted in heavy leader damage on one acre of Scotch pine near Saranac Lake; and by porcupines which completely ruined a small Norway spruce plantation in West Turin,

Lewis County. Pennsylvania reports a needle tip blight of unknown cause affecting Austrian and Scotch pine in Christmas tree plantings in Indiana County.

CANKERS

A couple of unusual cankering organisms are reported. Pennsylvania reports a species of Pyrenochaeta associated with stem and branch cankers of young sugar maples, which has caused considerable dieback and mortality in a sugar bush near Stoystown in Somerset County. Massachusetts reports a mulberry tree severely cankered by a Dothiorella sp. in North Andover. West Virginia reports confirmation of canker stain (Ceratocystis fimbriata f. platani) from a native sycamore in Pendleton County. This disease had previously been found in Kanawha County several years ago.

ROTS

Root rots New Hampshire reports that Polyporus schweinitzii has been observed killing both white and red pines in plantations. Aside from this notice all other reports of root rots concern Fomes annosus, showing its increasing seriousness, wider-known distribution, and some host relations. New York reports F. annosus has been found and verified in nine new plantations within the State; five on State reforestation areas, and four on private lands. These locations are in Madison, Cortland, Chenango, Dutchess, Columbia, and Rensselaer Counties. Silvicultural work has been done on all the areas. A graduate student of Cornell University is working on possible control measures, including trials with the antibiotic "Acti-dione." Pennsylvania reports F. annosus has been found in the following counties and number of plantations: Adams (1); Centre (2); Franklin (5); Huntingdon (7); Lycoming (1); Mifflin (4); and Perry (10) plus one natural stand. The following hosts are represented: white pine, Scotch pine, Virginia pine (natural volunteers), pitch pine (natural), Banks pine, red pine, larch, and eastern red cedar (natural volunteers).

Heart rots Word from West Virginia tells of various heart rots being heavy in the Eastern Panhandle where girdled oak-wilt trees often fall, due to heart rots. Heart rots are reported as one of the most serious problems, outside of oak wilt. Few fleshy fungi have been noted, probably due to the very dry weather. A large number of small fires during the spring season proclaim future trouble from wood rotters in West Virginia.

DIEBACKS

New Hampshire reports maple decline, continuing while New York reports maple dieback as the cause of considerable damage to shade and roadside trees, a condition which appears to be steadily getting worse.

Oak mortality is showing up in scattered trees over large acreages in Hardy and Hampshire Counties of West Virginia, with black and scarlet oaks being affected most. The dying white oaks from an unknown cause, reported last year, are dead in 1959. Cultures have produced no pathogenic fungi as the cause. Pennsylvania states that oak dieback is continuing in the Petersburg, Pine Grove Furnace, and Emporium areas.

Sweet gum blight, cause unknown, appears in normal amounts in the Kanawha Valley of West Virginia.

MISCELLANEOUS TROUBLES

White pine needle blight is reported as severe on some trees around Elkins, in Randolph County, and south of Greenbank, in Pocahontas County in West Virginia. New Hampshire states it is beginning to appear on a few scattered pines in the State.

Winter damage, as reported in the first issue of the REPORTER, occurred over wide areas. An excerpt from the "Monthly summary of the forest insect and disease survey" of the Canadian Maritime Provinces for May-June, 1959, shows that they encountered the same trouble. Winter drying of conifers occurred throughout the Maritime Provinces, and winter injury to ornamental deciduous shrubs and trees resulted in the death of branches and twigs and occasionally in complete mortality. Considerable damage to red pine at Blue Knob State Park in Pennsylvania is ascribed to freezing of roots. In southern New England limited observations of white cedar, for example, indicate some sparse but general refoliation of plants that appeared to have been dead. It is believed that such plants, even though they may recover eventually, have been severely weakened and will be subject to further damage by secondary insects and weak parasites for some time to come.

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